

NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION

LAKE TROPHIC DATA

MORPHOMETRIC:

LAKE <u>Greenough Pond</u>	LAKE AREA (HA) <u>102.59</u>
TOWN <u>Wentworths Location</u>	MAXIMUM DEPTH (M) <u>31.4</u>
COUNTY <u>Coos</u>	MEAN DEPTH (M) <u>11.45</u>
RIVER BASIN <u>Androscoggin</u>	VOLUME (M ³) <u>11,750,000</u>
LATITUDE <u>44° 50' N</u>	MUD SURFACE AREA (HA) <u>102.79</u>
LONGITUDE <u>71° 03' W</u>	RELATIVE DEPTH <u>2.8</u>
ELEVATION (FT) <u>1438</u>	SHORE CONFIGURATION <u>1.09</u>
SHORE LENGTH (M) <u>3900</u>	AREAL WATER LOAD (M/YR) <u>4.70</u>
WATERSHED AREA (HA) <u>777.0</u>	FLUSHING RATE (YR ⁻¹) <u>0.4</u>
% WATERSHED PONDED <u>3.3</u>	PHOSPHORUS RETENTION COEFF. <u>0.67</u>

BIOLOGICAL:

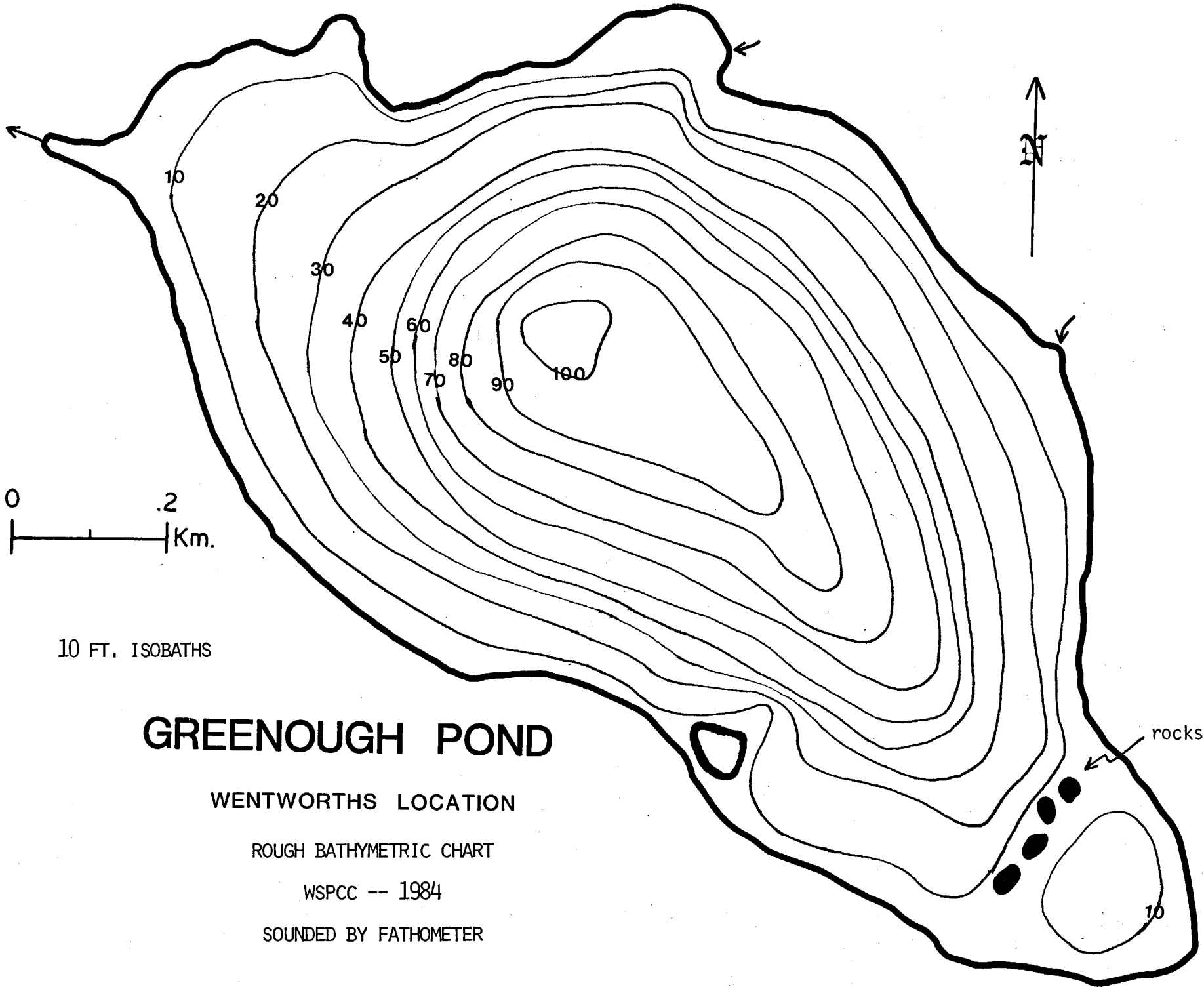
DATE	14 Mar 1985	14 AUG 1984
DOM. PHYTOPLANKTON (% total) ¹	Asterionella (75%)	Synura (30%)
²	Tabellaria (20%)	Asterionella (20%)
NUMBER OF ALGAL GENERA	6	17
SPECIES DIVERSITY	1.16	3.11
CHLOROPHYLL a (µg/L)		1.61
DOM. ZOOPLANKTON (% total) ¹	no dominant	Calanoid copepod (45%)
²		Keratella (40%)
ROTIFERS/LITER	2	15
MICROCRUSTACEA/LITER	9	24.2
TOTAL ZOOPLANK. CNTS (cells/L)	11	40
VASCULAR PLANT ABUNDANCE		Sparse
DOMINANT VASCULAR PLANTS ¹		Eriocaulon septangulare
²		
³		
SECCHI DISK TRANSPARENCY (M)		7.4
BOTTOM DISS. OXYGEN (mg/L)	8.0	9.2
SEDIMENT: % ORGANIC MATTER		

LAKE TYPE: A natural pond enlarged by damming.

SUMMER THERMAL STRATIFICATION: YES x NO WEAK

IF YES, VOLUME OF HYPOLIMNION 4,363,500 (m³) THERMOCLINE DEPTH 5.6 (m)

CHEMICAL: (mg/L unless indicated otherwise) LAKE: Greenough Pond																	
	WINTER		SUMMER														
DATE	14 MAR 1985		14	AUG	1984												
DEPTH (M)	9.0	18.0	2.5	6.5	13.0												
pH (UNITS)	NR	6.2	6.3	6.4	6.3												
ALKALINITY (I. P.)	NR	3.3	2.9	3.1	3.2												
ALKALINITY (F.E.P.)	NR	4.8	4.9	4.9	5.0												
NITRITE+NITRATE NITROGEN																	
TOTAL KJELDAHL NITROGEN																	
TOTAL PHOSPHORUS	0.001	< 0.001	<.001	<.001	<.001												
SPEC. CONDUCT. (μ Mhos/cm)	NR	25.4	21.2	19.6	20.5												
APPARENT COLOR (UNITS)	NR	15	15	15	15												
TRUE COLOR (440 nm)(UNITS)	NR	16	16	14	13												
MAGNESIUM			.46														
CALCIUM			2.1														
SODIUM			1														
POTASSIUM			.40														
CHLORIDE			<2		<2												
TN : TP																	
INORG-N : INORG-P																	
[Mg+Ca] : [Na+K]			1.83														
CALCITE SATURATION INDEX			4.2														
* = NOT DEFENSIBLE NR = NO RESULT																	
TROPHIC CLASSIFICATION: 1984 CLASSIFICATION POINTS: <table border="1"> <thead> <tr> <th>D.O.</th> <th>S.D.</th> <th>PLANT ABUND.</th> <th>CHL a</th> <th>TOTAL PTS.</th> <th>TROPHIC CLASS.</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>OLIGO.</td> </tr> </tbody> </table>						D.O.	S.D.	PLANT ABUND.	CHL a	TOTAL PTS.	TROPHIC CLASS.	0	0	0	0	0	OLIGO.
D.O.	S.D.	PLANT ABUND.	CHL a	TOTAL PTS.	TROPHIC CLASS.												
0	0	0	0	0	OLIGO.												
COMMENTS: 1. A beautiful, crystal clear, deep lake. 2. Access to the pond is difficult, over a rocky road for 4-wheel vehicles only. The access road is barred with a locked gate; the key is obtained from the local Fish & Game Conservation Officer. 3. The land around the pond is owned by a paper company. 4. Only 2 cottages on the pond. 5. Good launch site at the pond.																	



FIELD DATA SHEET

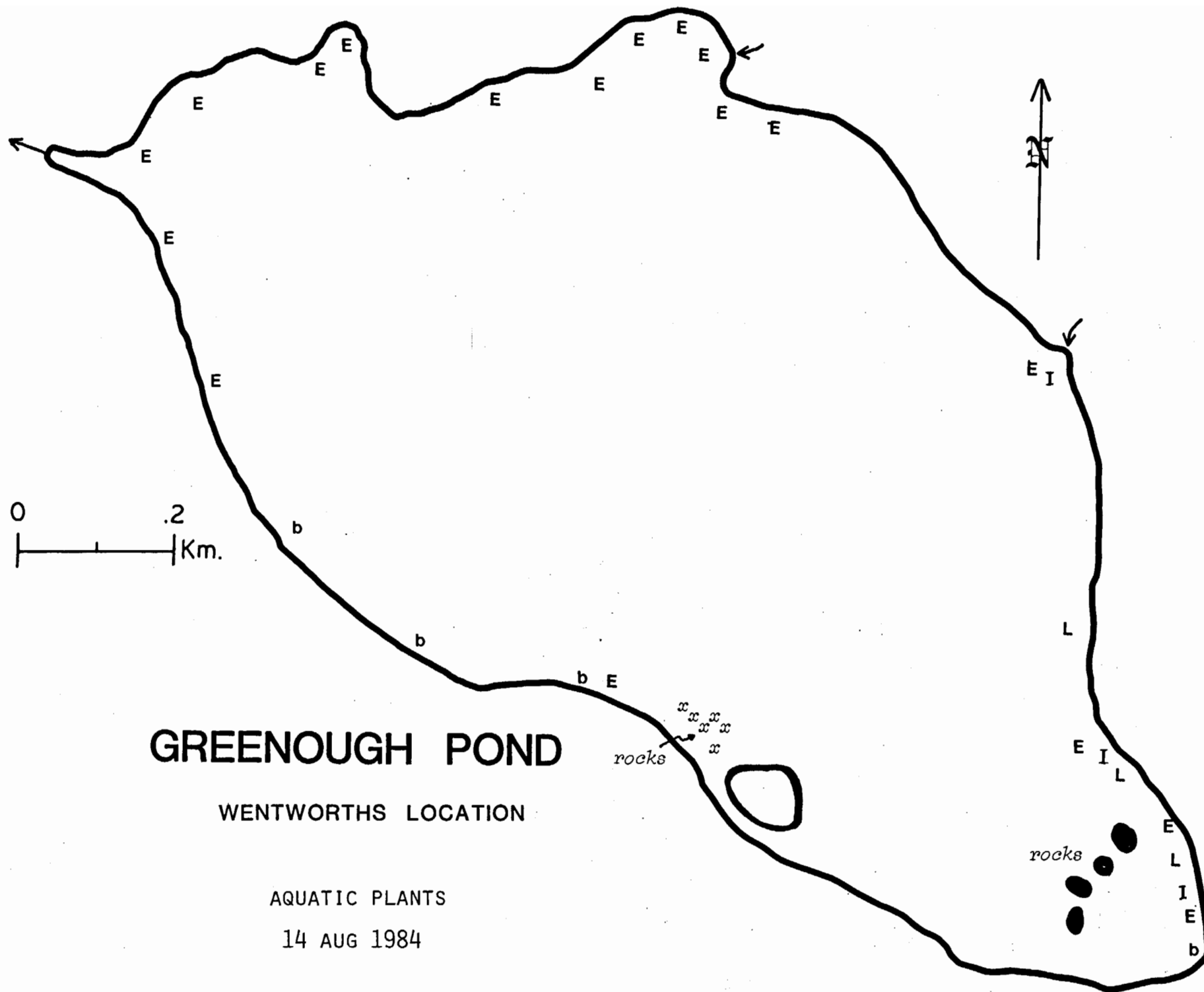
WATER BODY Greenough PondTOWN Wentworths LocationBY WSPCCDATE COLLECTED 14 August 1984WEATHER Mostly cloudy

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
	0.0 1.0	25.1 25.1	9.3 9.3	111%			
	2.0	25.0	9.3				
	3.0	24.3	9.4				
	4.0	23.0	9.5				
	5.0	19.3	9.5				
	6.0	15.5	10.8	107%			
	7.0	11.5	10.8				
	8.0	9.9	11.0				
	9.0	8.5	10.4				
	10.0	7.8	9.9				
	11.0	7.1	9.8				
	12.0	7.0	9.8				
	13.0	6.9	9.6				
	16.0	6.0	9.2	74%			

SECCHI DISK (M) 7.4BOTTOM DEPTH (M) 16.0TIME 1530

COMMENTS: This pond is over 100 feet deep; dissolved oxygen and temperature were measured to a depth of only 16 meters (52 feet), because that was the length of the probe's cable.

* Dissolved oxygen values in mg/L



LAKE Greenough Pond TOWN Wentworths DATE 8/14/84 BY WSPCC
Location

OVERALL ABUNDANCE	<u>Sparse</u>
-------------------	---------------

1. Plants were sparse; navigation along the shoreline was difficult because of numerous large boulders.
2. Two adult and two baby loons were observed.